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THE EDUCATIONAL APPROACH TO HEALTH WORK*

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Education as a basic approach to health work is well recognized and accepted. Standard textbooks in public health administration invariably mention education as one of the major activities of official and voluntary health agencies. Shepard,¹ in discussing basic services of local health departments, feels that public health education "is the most recent and perhaps the most effective of the gradually evolving health procedures." The development of specific programs in public health on tuberculosis, cancer, heart, nutrition, mental health, sanitation, and many other topics, has given high priority to the educational approach as a method of meeting program objectives.

Education is used as a basic tool by nearly all health persons in their job activities: nurses, sanitarians, school nutritionists, health service personnel, to mention only a few. Health agencies throughout the Country have budgeted millions of dollars for the dissemination of health information through the traditional mass media channels. Although there is wide agreement about the importance of education in meeting health problems, there seems to be little understanding as to what the educational approach is and how it can be used effectively.

It is not surprising that health workers do not understand the educational approach, for the great ma-

jority have had their professional training and experience in the medical and biological sciences, while the educational approach has as its basis the social sciences. Social science investigations have direct application to health activities, for they are concerned with such areas as motivation of behavior, working with minority groups, individual and group productivity, and analyses of agency structure and function.

It is the purpose of this article to spell out the meaning of the educational approach. No attempt will be made to elaborate in detail any component of the educational approach; rather the presentation of a skeletal framework is the main objective. Numerous articles have been written on specific aspects of health education but few have been concerned with the development of a general framework.

What Is the Educational Approach?

When the educational approach is used in health work the goal is usually that of change—change of information, attitudes, or behavior. In this article the phrase "change of behavior" is used in a broad and positive sense. Change of behavior takes place when an individual substitutes a scientifically more effective health practice for another one, or when an individual takes action which leads to more effective health practice.

To bring about change in behavior three steps are frequently necessary:

- (1) creating or changing perceptions;
- (2) utilizing motivational forces; and

- (3) making a decision to act. These steps are interrelated and are parts of a total change process. Let us examine the meaning of these three steps.

Creating or Changing Perceptions

Our behavior in any given situation is determined to a large extent by the beliefs, attitudes and values we hold. These beliefs, attitudes and values, ever changing, in some individuals more slowly than in others, are the result of our life's total sum of experiences. The way that we view people, situations and objects in our life is called perception.[†] It is quite obvious, then, that since we have all had different experiences our perceptions of things around us will be different. To one individual a health department is perceived as an agency to which poor people in a community can go for vaccinations, immunizations and for other assistance in child health matters. Another individual perceives the health department as an agency concerned primarily with sanitation; while a third thinks of it in terms of mental health, heart disease, and other unsolved health problems.

[†] The term perception is used in its broader meaning as employed today by many social psychologists, who, as Allport² states, believe that "perception may be used in a societal or social-field context to cover almost everything that enters into the individual's apprehension of the complex situations that comprise his social living. It may include not only his seeing or hearing of the other members of the group, but his awareness of their relationships, their values, and their attitudes toward him. Perception is nothing less than the individual's understanding of the social situation in which he is placed."

* Reprinted in a slightly abbreviated form by special permission of the author from the March, 1957, issue of *The Health Education Journal*.

People's perceptions of medical care differ widely. A recent study of health screening among longshoremen revealed that some waterfront workers felt that medical care for anything other than serious disorders was unmanly.³ We know that this attitude is quite different for other groups who look upon the doctor as a person to visit before serious disorders occur.

In some of our health work the problem is not so much one of changing perceptions as of creating perceptions. We find children and even adults who have neither knowledge nor experience in certain areas of health and have therefore no perceptions in these areas. At the present time many health departments are attempting to institute procedures for the fluoridation of water supplies. Most persons in a community know little or nothing about the subject of fluoridation, and before community action can be taken perceptions will have to be formed.

Utilizing Motivational Forces

There is a good deal of truth in the old adage "You can lead a horse to water but you can't make him drink." People can be told repeatedly of a more effective health practice documented with undisputed facts and figures and still refuse to change their old patterns of behavior. Professional health people are so deeply interested in their work that they often forget that facts and figures change behavior only if they are related to basic human needs. It is unfortunate for health workers that good health in itself does not seem to be a basic need. Creating new needs is an area we know little about. It means, then, that we must utilize in our health work those biogenic and acquired basic human needs that serve as the motivational determinants of behavior. Unless we can in some way harness our facts and figures to basic needs we cannot expect behavior to be changed.

In psychology the field of motivation is not only a complex one, but one in which there are still many unanswered questions. Even though present theory and research are far from being final, most psychologists would support the statement that human behavior is influenced not only by the biological needs of sex, thirst

and hunger, but also by needs that are the result of socialization and acculturation. These needs, called learned or acquired needs, can motivate behavior as strongly as the biogenic needs. Although students of motivation are not in complete agreement about what needs are acquired, the ones mentioned most frequently are: affection, security, gregariousness, and recognition or prestige.

Year after year, school children and adults are exposed to health information and experiences for the purpose of creating and changing their health perceptions. Unless the information and experiences have real meaning in relation to basic needs, learning will not be as effective or as lasting as it might be. Since the educational approach is unlike the legal approach, which can compel a person to behave in a specified way, the education approach must depend on the individual's own desire to change or act.

In addition to the personal needs already discussed, there are certain social needs not clearly understood in psychology. These social needs are deep rooted in our value system. It is fortunate for our society that many men and women will act for the good of society even though no personal motive is involved. Important, however, as these social needs are, it does not mean that we should neglect utilizing what we do know about the forces of personal motivation. It would be unsound planning to go on the assumption that because a particular health activity was worthwhile for the community everyone would naturally support it.

Research in the field of group dynamics during the last decade has given a renewed emphasis to the tremendous influence of interpersonal relationships of groups in both formulating and changing attitudes and behavior. Katz and Lazarsfeld⁴ review some of the recent sociological and psychological studies of the "rediscovery" of the primary group in our society, showing the powerful effects of the factor of interpersonal relations in the field of mass communication alone. These studies and numerous others have made us see how firmly anchored an individual is to his family, friends, and work associates. Individuals do not generally

change attitudes and behavior if the change which runs counter to these groups. Lewin⁵ expresses this so effectively with the theme that runs throughout his writing: "The group to which a person belongs is the ground on which he stands." In health work the factor of group influences must be given a high priority when dealing with problems involving motivation. Individuals must always be thought of in their social context, with family, friends and other influential groups being the pilots of their actions.

Making a Decision to Act

We can all probably think of situations where our intentions were good, but we failed to complete what we had decided to do. This particular phenomenon of behavior is very important to health workers. The child whose mother means to take him to a doctor for a needed eye examination, but never does, is in many ways no better off than the child whose mother is unaware that an eye examination is needed. There are, without question, many psychological explanations of why people do not complete an intended task. A full discussion of these reasons is not necessary for our purpose, but it might be suggested that one common reason is undoubtedly the great number of competing forces operating in people's lives which often make it difficult for them to do all that they desire. The important thing for health workers to know is that a bridge is needed between intentions and action. This bridge which might appear to us as being relatively unimportant is often psychologically a determining factor in behavior. The bridge is a decision-making process on the part of an individual or a group indicating that action will follow. Illustrations will help to clarify this concept. A mother intends to take her child for an eye examination: a telephone call to the doctor's office for an appointment by the mother or the public health nurse might serve as the bridge between intentions and action. A group of mothers meeting with a doctor in a well child conference might decide as a group to try some different procedure the doctor has suggested pertaining to sleeping habits of children: the decision made by the mothers, in a matter of a few seconds,

expressed by only a few words and nodding heads, can have such a powerful psychologically binding force that most mothers will follow through on the doctor's suggestion. This decision-making act is an important step in the total process of changing behavior which has been demonstrated so clearly in the research studies of Lewin and his students.^{6,7,8,9}

Methods of Bringing About Change

Thus far three steps, often essential if behavior is to be changed, have been outlined, but methods of bringing about change have not been discussed. In most of our health work there are three major methods we employ, called change methods. These change methods are community organization, individual approach, and mass media.

The term "community organization," used for many years in sociology and social welfare, but only recently adopted by health workers, is one meaning different things to different people. The author defines community organization as a method employed in the solution of community needs, when those needs can be met most effectively through joint or co-operative effort. Community organization as a method can be used effectively or ineffectively. The key to its successful application is the nature of the interaction process involved in the joint or co-operative effort. This interaction process, sometimes called group dynamics, group process or the democratic approach, provides the answer to why health activities and programs have varying success. The community organization method consists of numerous techniques and procedures: meetings, conferences, workshops, in-service training, block plan approach, discovery of community leaders, to mention only a few.

The second change method, the individual approach, is the one used most frequently in health work. Its wide use has led to the general acceptance of the statement that everyone concerned with health is a health educator. The nurse talks with a mother, the doctor with a patient, the sanitarian with a homeowner—these are examples of the individual approach method. The individual approach and community organization methods are similar in that when both are successfully used the interaction process in-

volved is the same. However, the individual approach method is more often used in a situation in which one person is attempting to bring about change in the other. This is not generally the case in community organization.

Mass media, the third change method, is one with which we are all familiar, and it needs no elaboration at this time. Pamphlets, exhibits, bulletins and other media are widely used in health work.

The three change methods must, of course, be appraised in relation to their effectiveness in accomplishing the steps of creating or changing perceptions, motivation, and decision to act. Even though the three methods are most frequently employed simultaneously in a health activity, it is well to realize that each of the methods has certain unique advantages and limitations. Without going into detail, and at the risk of oversimplification, present-day research shows that the strength of the mass media method is in the process of creating or changing perceptions, that of the community organization method in motivation, while the individual approach method has its strength in the step of decision to act.

In closing these remarks about change methods it might be said that it is disturbing to hear some workers in the field of health, often health educators, make such statements as these: "In our health agency we are not doing enough in radio." "We should do more in community organization." It is confusing to speak of methods as objectives. A health department could function for many years without using radio as a mass communication medium if there were more effective ways of achieving program objectives. Programs are not built around methods; methods are selected after program objectives have been determined.

Health Programs and Activities Originate From Needs

Health programs or activities arise from needs. Health needs may be recognized by any person. A person does not have to be professionally trained in health either to recognize many health problems or to initiate action toward their solution. As might be expected goals are more realistically

set and achieved through the co-operative efforts of both lay and professional health people. The accomplishments of voluntary health agencies in the United States are ample evidence of this fact.

We sometimes become aware of certain health needs which can be solved simply and quickly. However, most of our major health needs for which the educational approach is employed are not easy to solve. The late Dr. Joseph Mountain¹⁰ of the United States Public Health Service was cognizant of the complexity of modern health when he wrote before his death: "In recent years we have been witnessing a steady broadening of the horizons of public health. The emphasis has shifted, to a great extent, from the microbiological effects of disease to the study of man in his socio-economic setting. * * * our job [is] more complex and [has] thrust on us many new responsibilities."

Focusing Health Needs

If the educational approach is to be used effectively, a health need must be studied and analyzed thoroughly. This particular type of planning might well be called "focusing the need." Depending, of course, on the specific need, there are several questions which aid us in this focusing process. The following four questions are cited as examples:

1. *What other people are aware of this need and how strongly do they feel that something should be done to meet it?*

This can be a very searching question to ask, for it often reveals the significance of a need. For example, a director of a division of maternal and child health in a local health department might feel the need to start a new activity, but in discussing it with his staff and other members of the health department, he might find that they did not view the activity with the same degree of importance. We know our own perceptions are influenced by personal needs, and at times it is difficult for us to perceive objectively. It is not intended to give the impression that individuals never start activities unless other persons agree with them, for we all know that if this were the case many significant accomplishments in this world would

never have been achieved. The point is, rather, that new activities involving many hours of work and sometimes great sums of money might be discussed profitably with those who can help judge their significance.

2. *Who are the people who are actually concerned with the need and how do they feel about it?*

Thinking through this question can be of tremendous value in numerous ways. Frequently it can give an indication of the acceptance status of an activity by those who are most concerned with it. For example, a school principal might have delayed an inservice training course for his teachers if he had taken the trouble to investigate how they felt about such a course. Surveying attitudes of people concerned with a need serves as a useful guide in planning procedures of work. Community organization procedures for promoting a local health department in an area where the people have indicated a strong interest in developing health services would be quite different from community organization procedures in an area where the people are unconcerned about problems of health.

Also by asking which people are actually concerned with a need we define the group more specifically, and can also change the type of program offered. An effective program for workers who have actual cardiac disorders would be quite different from a program designed for workers in a young age group who are relatively uninterested in heart disorders, or a middle age group where heart disease is only beginning to have some personal meaning.

3. *What data exist which will give valuable information about the need?*

Many health activities might be considerably altered or early discarded if thoroughly studied in the planning stage. Time devoted to gathering factual data and empirical evidence is time well used. Many health councils would still be active if eager promoters had taken time to consult with people having wide experiences in health council work. At times interested persons start a health project which receives little community sup-

port, only to find later, to their surprise, that the same project met with failure a few years previously. Data about an activity not only gives us important background material, but also helps us to see the activity in relation to other activities. Health workers operating in a framework of limited time and budget must set priorities. Statistical and other facts will frequently be the determining factors in setting priorities of work.

4. *Is it possible to evaluate whether the need has been met?*

If evaluation can be made only in relation to clear and specific objectives, it is then essential that we spell out in detail what we hope to accomplish. Evaluation should not be something that is considered after an activity is completed. Methods of evaluation should be determined in the planning stage and are often carried out while the activity is in progress as well as when it is completed.

Focusing health needs consists of at least four major parts: factfinding, establishment of objectives and priorities, determination of methods, and evaluation. With complex health problems the process of focusing health needs is most effectively met through multidisciplinary attack. No one public health specialty has all the tools within its own discipline for solving certain types of problems. The process of focusing health needs provides the meeting ground for many disciplines to come together for shared thinking, each making its own unique contributions. Industry as well as public health has become so complex that a multidisciplinary attack is essential. The du Pont Company,¹¹ for example, in discussing their executive committee which consists of sales, technical, manufacturing and other specialty fields and which has the full authority for all planning, states: "We reap the benefit of diversified experience. * * * It may take longer to get action, but this pays off handsomely in better decisions and ability to follow through on long-range policies."

Multidisciplinary planning provides an opportunity for the health educator as an expert in the educational approach to work co-operatively with the experts in the other major ap-

proaches to public health—administrative, technical, legal, statistical, and epidemiological, who are all actively concerned with the planning process. The epidemiological approach, for example, is closely allied to the educational approach. Buell¹² defines the former as " * * * the effort to discover facts about the characteristics of a communitywide problem and then put them systematically together to determine how to do something constructive about it. Facts about its distribution, intensity, mobility, cause, environmental setting, workable control methods, and so on."

It is probably fair to say that many health programs or health activities would never have started, or their direction would have been considerably altered, if the multidisciplinary approach had been employed in the early planning stage. Each of the experts of the major approaches can make his own unique contributions to factfinding, establishment of objectives and priorities, determination of methods, and evaluation. For example, in regard to evaluation, the health educator's unique contributions are often in the area of media pretesting, collection of descriptive data, and the measurement of attitudes.

Educational Approach a Learning Process

Since learning is the acquisition of new modes of behavior, then the educational approach, which has its goal change of behavior, is essentially a learning process. How effectively we use the educational approach in our health work depends on how well we understand and apply principles of learning. One principle of learning, motivation, has already been discussed. It would be impossible to summarize the tremendous amount of research that has been done in the entire field of learning, but it might be helpful to select for discussion two other principles which are of significance to all health workers.

Principle of Repetition. One of the first principles of learning investigated by psychologists was that of the effect of repetition on learning. This principle is sometimes misunderstood, for it is thought that repetition alone is capable of producing learning. Repetition is an important condi-

tion of learning when it is accompanied by such other factors as attention, interest and meaning. Leaders can use every available communication channel to discuss problems of the community, but repetition will have little effect in sparking community action unless the problems are presented in a way that will arouse interest and have meaning to the citizens.

Repetition also has a value that we frequently forget. It provides the individual with opportunities for improvement. Some of our important health legislation was passed only after many attempts, but after each attempt we had opportunities to examine our procedures critically and make necessary improvements.

Principle of Participation. It has long been recognized that learning does not take place unless there is activity. It was over 35 years ago that the first research was done which showed that both children and college students learned appreciably more when they used part of a given time in recitation than when they used the whole time in passive reading alone. Since that first experiment, there have been many other research studies which show the importance of activity in learning. It has been during the last decade, however, that psychologists have given additional meaning to the concept of activity. It is now felt that it is not just the motor activity alone which is the important factor in learning, but activity that is directed toward personal participation. We now have substantial evidence from research to show that when people are personally involved in determining their own activity, interest and morale are heightened, productivity increases, and goals are much more likely to be reached. Allport,¹³ in reviewing studies relating to the principle of participation, writes: "Such findings add up to the simple proposition that people must have a hand in saving themselves; they cannot and will not be saved from the outside."

As we use the educational approach in our health work it might be of value for us to test constantly whether our procedures are in keeping with this principle of participation.

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Preventive Medicine Division Chief Named to National Advisory Group

Dr. Robert Dyar, Chief, Division of Preventive Medical Services, California State Department of Public Health, has been named by U. S. Surgeon General Leroy E. Burney to a 13-member National Advisory Committee on Chronic Illness and Health of the Aged. The committee is composed of outstanding authorities in the fields of medical education, geriatrics, physical and industrial medicine, nursing, care of the aged, public health and public welfare. They will review the complex medical, social and economic problems associated with chronic illness and aging, and will consult with and advise the surgeon general in these fields.

Berwyn F. Mattison A. P. H. A. Executive Secretary

The American Public Health Association has announced the election of Berwyn F. Mattison, M.D., M.P.H., as executive secretary, to become effective January 1, 1958. Doctor Mattison succeeds the late Reginald M. Atwater, M.D.

From early in 1955 until the present time, Doctor Mattison has been Secretary of Health for Pennsylvania. His public health experience has been at all levels of administration. He has held the posts of Commissioner of the Erie County (New York) Department of Health, assistant and later District State Health Officer of New York and Commissioner of Health of Yonkers.

Doctor Mattison received his bachelor's degree from Rensselaer Polytechnic Institute, his master's degree in public health from Johns Hopkins University School of Hygiene and Public Health, and his medical degree from McGill University in Montreal.

He is a member of the American Medical Association, a fellow of the American College of Preventive Medicine, and a member of many other educational and public health organizations.

Mr. Foreman Passes

Merle S. Foreman, 62, died November 22d at his Berkeley home. He had been ill for several years.

Mr. Foreman, a biochemist, retired from the California State Department of Public Health in August, 1952. During his 25 years of state service he worked in the Division of Laboratories of this department as a biochemist, bacteriologist-chemist and assistant public health chemist. He was employed in November, 1927.

Surviving him are his wife, Corinne; two sons, Robert M. of San Jose and Donald R., in the Navy, and a sister, Mrs. Grace Patton of Piedmont.

Mr. Foreman was a veteran of World War I. Interment was at the Golden Gate National Cemetery.

Viruses cause no fewer than 50 different diseases in man, and many more than that in plants and in animals.—*Public Health Reports*, October, 1957.

Dr. Merrill Receives Alumni Merit Award

Dr. Malcolm H. Merrill, M.D., Director, California State Department of Public Health, was honored by St. Louis University at ceremonies commemorating its 139th anniversary. Dr. Merrill was the recipient of one of eight alumni merit awards granted by the university.

Dr. Merrill's citation read in part: "Under Dr. Merrill's guiding influence, the California State Department of Public Health has developed into one of the world's most effective and most productive centers of public health administration and of research in both fundamental and applied epidemiology. His outstanding ability as an investigator and administrator has been recognized by professional groups in this Country and by those concerned with the global aspects of public health and preventive medicine * * * he excels as one who has achieved the kind of stature to which students of medicine * * * should aspire: an informed leader and teacher among men everywhere, ever conscious of the responsibility for human betterment. * * *"

Dr. Merrill is a graduate of St. Louis University's School of Medicine, obtaining his degree in 1932. He received a master of science degree in bacteriology from the university in 1927 and a master of public health from the University of California in 1947.

Florence Ames Dies of Cancer

Florence Ames, who for 27 years was associated with the California State Department of Public Health as a public health nurse, died in San Francisco on November 21st following a prolonged illness.

One of the State's pioneering public health nurses, Miss Ames traveled into every county in the State to conduct epidemiologic investigations of botulism, diphtheria, encephalitis, food poisoning, poliomyelitis, smallpox, and typhoid fever. During her service with the department she did a tremendous amount of work in organizing and developing immunization clinics throughout the State.

Miss Ames joined the department in January, 1923. For the first three

Salk Vaccine Goes Begging In Spite of Effectiveness

Conservative estimates place at over two and a half million the number of Californians, aged 0-39 years, who have yet to receive their first Salk vaccine inoculation, and at over three and a half million the number who have received only one inoculation. This is in spite of the fact that the Salk vaccine has reduced the incidence of paralytic poliomyelitis by over 85 percent and the number of cases of poliomyelitis by over 75 percent.

The incidence data this year emphasize the need for further vaccination. Nearly 150 paralytic cases have already occurred among persons who have received no vaccine. Approximately one-third of these unvaccinated cases are children under five, another third are adults, and the remainder are school-age children who still had not been reached by the vaccination effort.

As of July 1st, when most of the local vaccination campaigns were largely concluded, estimates indicated that roughly 70 percent of the population aged 20-40 and 15 percent of the population under age 20 had not received any inoculations of Salk vaccine. Less than a fourth of the vaccinated had completed the series of three inoculations.

There has been a steady downward trend in the usage of the state-purchased vaccine since June of 1957. The reported usage has fallen from a high of 989,026 inoculations given in March, 1957, during the height of the immunization campaign, to 191,071 in September and 160,867 in October.

Ample supplies, both commercial and state purchase, of vaccine are

years thereafter she worked on loan with the Orange County Health Department through one of the State's largest typhoid epidemics. On her return to the department she was assigned to the Bureau of Communicable Diseases as a nurse epidemiologist, a position she held until her retirement in August, 1950.

Miss Ames served as an Army nurse in World War I. Burial was in Billings, Montana.

available, and persons are urged to obtain vaccinations either from their local health department or family physician.

Vaccine Effectiveness

The total incidence rate of poliomyelitis in California is now lower than for any year since 1944. The incidence of paralytic cases is at the lowest level recorded since the reporting of paralytic status was initiated in 1948. As of the first of November, just over 500 cases, of which only 200 were paralytic, had been reported. This is a reduction of over 75 percent in total incidence and 85 percent in paralytic incidence from the five-year median (1950-1954) immediately prior to the use of Salk vaccine.

There are several indications that vaccination against polio has been a significant factor in the low incidence this year. The greatest reduction in paralytic rates has occurred among school-age children in whom immunization levels are known to be highest. The reduction is somewhat less among preschool-age children who have not been reached as extensively by local vaccination programs, and is least among young adults, of whom only a minority have received vaccine. This year for the first time in departmental records, the paralytic incidence rate is lower among children aged 5-9 than among adults aged 20-29.

Approximately three-fourths of the paralytic cases this year occurred in patients who had received no vaccine prior to onset; 15 percent had received a partial series, and less than 10 percent had had three inoculations. The latter group consists of 15 cases, predominantly with mild weakness, in which confirmation of diagnosis by laboratory study is still pending. No deaths have occurred this season among vaccinated cases.

These indirect evidences of vaccine effectiveness are in keeping with the direct evidence of a 75-85 percent reduction in paralytic disease among vaccinated children observed in vaccine evaluation studies in 1955 and 1956. However, poliomyelitis often varies widely from year to year and it appears likely that the remarkably low incidence this year may be attributable in part to a moderate incidence among the unvaccinated population.

Funds Allocated to 10 Special Projects

Ten special project applications have been approved for federal General Health and Maternal and Child Health funds; four of the projects are in the area of chronic disease, three in maternal and child health and two in occupational health. Approval of the projects by Malcolm H. Merrill, M.D., Director, California State Department of Public Health, for allocation of funds to the special projects was based on the recommendations of a special advisory committee. (See October 15 and November 1, 1957, issues of *California's Health*.)

Deadline for submitting applications for new projects for consideration during the next Fiscal Year, 1958-1959, is March 1, 1958.

A brief description of approved projects follows:

Chronic Disease

Long Beach City Health Department. A selective multiphasic screening program designed to detect unknown or inadequately treated cases of diabetes, tuberculosis and syphilis.

Orange County Health Department. A comprehensive study of preventive medical screening in which applicants for public assistance and dependent children will participate. The study will be done in co-operation with the medical profession and the county welfare department.

Alameda County. A nursing education program in which courses on rehabilitation of the disabled and elderly will be given to registered professional nurses enabling the nurses to acquire skills which will bring patients up to their highest degree of self-care and usefulness. The project has the endorsement of the local health department.

Modoc County Health Department. Development on a demonstration basis of a home nursing service in a rural area.

City and County of Los Angeles. Establishment on a demonstration basis for evaluation purposes of a comprehensive home care program for patients eligible for care at the county hospital. In this demonstration the hospital would supply medical direction and all the services normally available to county hospital patients.

The project has the endorsement of the local health department.

Occupational Health

City of Berkeley. The University of California Health Service will attempt to ascertain the probable gonadal exposure experienced by persons receiving x-radiation in the course of medical diagnosis. The project has the endorsement of the local health department.

Santa Clara County Health Department. A demonstration of a possible occupational health hazard by measurement of radiation exposures of dentists and dental assistants.

Maternal and Child Health

San Joaquin Local Health District. Development of methodology which will lead to a longitudinal survey and evaluation of a hearing conservation program.

Marin County Health Department. Improvement of nutrition education in the current maternal and child health program by determining faulty food habits of the population served by the health department and developing specific techniques for changing these habits.

Contra Costa County Health Department. A descriptive epidemiologic study to determine the extent of micrococcal organisms among patients admitted to a general hospital, particularly those in the maternity and newborn department.

The projects are limited to a three-year period of support and must submit an annual progress report for review by the advisory committee.

SPECIAL CENSUS RELEASES *

Special Census of California cities, **Series P-28 Los Angeles County:** Monrovia (1,028), Pomona (1,033); **Orange County:** Garden Grove (1,034).

Copies of these releases may be obtained from: Library, Bureau of Foreign and Domestic Commerce, United States Department of Commerce at 419 Customs Building, 555 Battery Street, San Francisco, California, or at Room 450, 1031 South Broadway, Los Angeles, California.

* In ordering, specify series and number as shown in parenthesis. These numbers are not population figures.

Conference of Local Health Officers Committee Heads Appointed

Dr. Merle Cosand, president of the conference, after consultation with Dr. Malcolm H. Merrill, Director, California State Department of Public Health, has appointed the following health officers chairmen of committees for the year 1957-58:

Robert D. Monlux, M.D., Fresno County—Committee on Administrative Practices.

James T. Harrison, M.D., Sonoma County—Study Committee on Environmental Sanitation.

Roy O. Gilbert, M.D., Los Angeles County—Study Committee on Health Facilities.

Sterling S. Cook, M.D., Napa County—Study Committee on Health Services.

Ira O. Church, M.D., Sacramento County—Study Committee on Communicable Disease and Laboratories.

W. Elwyn Turner, M.D., Santa Clara County—Committee on Legislative Information.

Dr. Cosand is health officer of San Bernardino County.

Public Health Positions

Humboldt-Del Norte Counties

Director of Nursing: Salary range \$439 to \$549. Beginning step dependent upon experience. P.H.N. certificate required. Generalized program with some school nursing.

Public Health Nurses: Salary range \$392 to \$491. Driver's license required. Generalized program with some school nursing. Apply to Dr. L. S. McLean, Director, Humboldt-Del Norte County Department of Public Health, P. O. Box 857, Eureka, California.

Monterey County

Sanitarian: Salary range \$380 to \$470. Requires California registration. One position open. Contact M. W. Husband, M.D., Health Officer, Monterey County Health Department, 154 West Alisal Street, Salinas, California.

Santa Barbara County

Public Health Nurses: Salary range \$355 to \$433. R.N. and P.H.N. certificates and driver's license required. Generalized program in Santa Maria area. Contact Joseph T. Nardo, M.D., County Health Officer, P. O. Box 119, Santa Barbara, California.

Health Officer Changes

Mendocino County

C. Henry Murphy, M.D., has been appointed health officer for Mendocino County. He succeeds Nicolas Zbitnoff, M.D. The appointment was effective November 15, 1957.

Dr. Smith Elected to APHA Executive Board

Charles E. Smith, M.D., President of the California State Board of Health and Dean of the School of Public Health, University of California, was elected to the Executive Board of the American Public Health Association at its 85th annual meeting in Cleveland, Ohio.

Several members of this department were elected to offices in the various sections of the association. They are: Arthur C. Hollister, Jr., M.D., Chief, Bureau of Acute Communicable Diseases—Secretary-elect, Epidemiology; Helen E. Walsh, Chief, Nutrition Service—Vice Chairman, Food and Nutrition; and Howard L. Bodily, Ph.D., Chief, Division of Laboratories—Chairman, Laboratory.

Malcolm H. Merrill, M.D., Director, California State Department of Public Health, continues as chairman of the Committee on Affiliated Societies and Branches.

The following papers prepared by department staff were presented at the meeting (senior authors only are listed):

"Attitudes of Californians Toward Polio-myelitis Vaccination," Malcolm H. Merrill, M.D.

"Health Effects of Air Pollution," Lester Breslow, M.D., Chief, Bureau of Chronic Diseases.

"The Effect of Changing Environmental Hazards on Public Health Priorities," Frank Stead, Chief, Division of Environmental Sanitation.

The papers will be published at a later date in the *Journal of the American Public Health Association*.

Health Departments Participate in INH Prophylaxis Trials

Three local health departments in California will participate in a nationwide study to test the protection that isoniazid (INH) gives to family contacts of persons with newly discovered tuberculosis. The participating health departments are Los Angeles City, Orange County and Santa Clara County.

The Public Health Service sponsored study will include household contacts with newly discovered tuberculosis cases occurring in the three selected health jurisdictions during one year. Household contacts will be tuberculin tested and X-rayed as they enter the study. Each month they will be supplied with enough pills for each member of the family to receive a daily dose of isoniazid. Quarterly home visits by a public health nurse will be made to determine the regularity with which the family is taking its pills, and the amount of time the member with tuberculosis has spent in the home.

At the end of the year, the household members will be re-examined in the clinic with tuberculin tests and X-rays to find those whose tuberculin tests have become positive, and the number who develop some tuberculous disease.

The study was undertaken by the PHS to determine the value of isoniazid as prophylactic agent. The drug is highly effective in the treatment of tuberculosis, however, there has been a great deal of controversy on its effectiveness as a preventive agent.

1957 Health and Safety Code Available

Orders may now be placed for the 1957 edition of the Health and Safety Code. This edition includes all amendments to the code through the 1956 Session of the Legislature. Copies may be ordered from the California State Printing Division, Seventh Street and Richards Boulevard, Sacramento, at a price of \$6 plus tax for the paper binding and \$9 plus tax for the Keratol binding. Copies are not available from the California State Department of Public Health.

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State Director of Public Health

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Executive Officer
Berkeley

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